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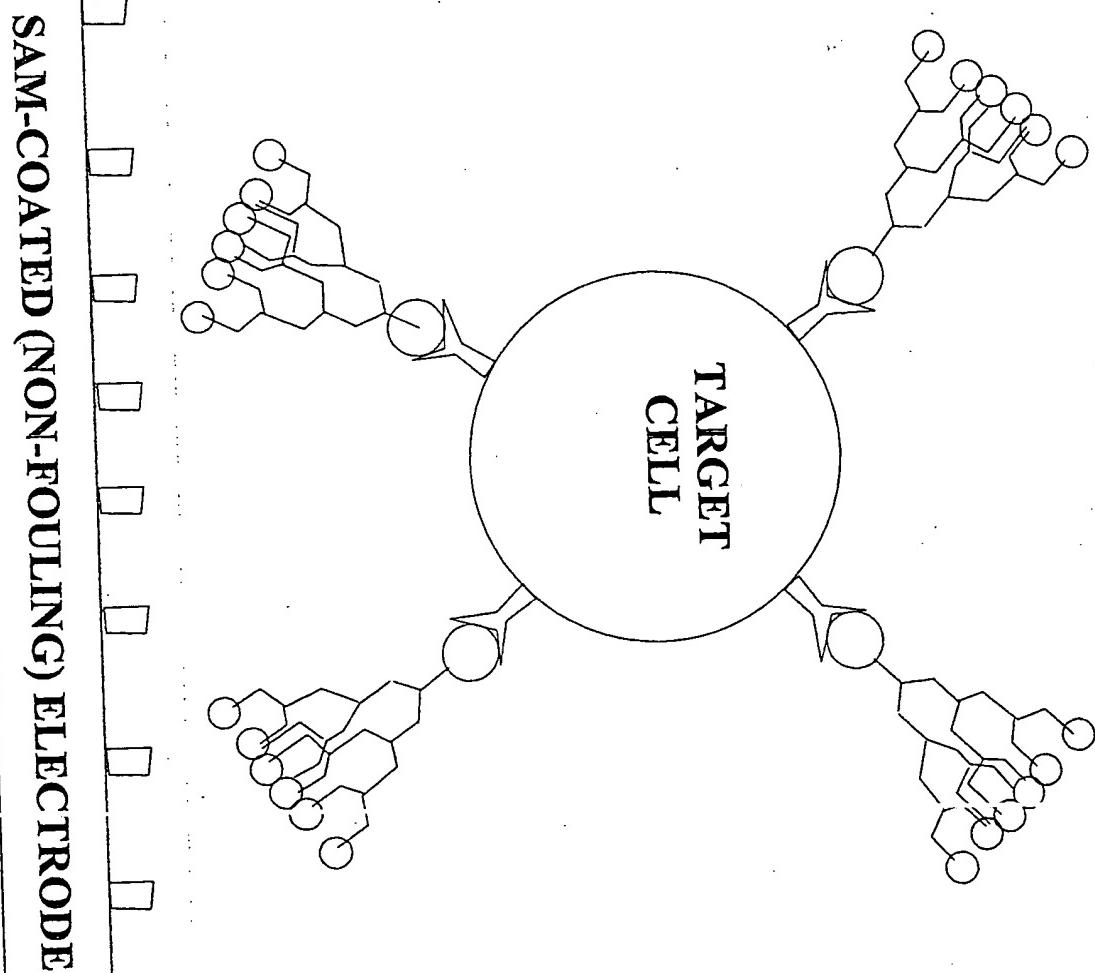
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INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
Serial No.: Filed Herewith
Docket No.: M1015.70002US01



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SAM-COATED (NON-FOULING) ELECTRODE

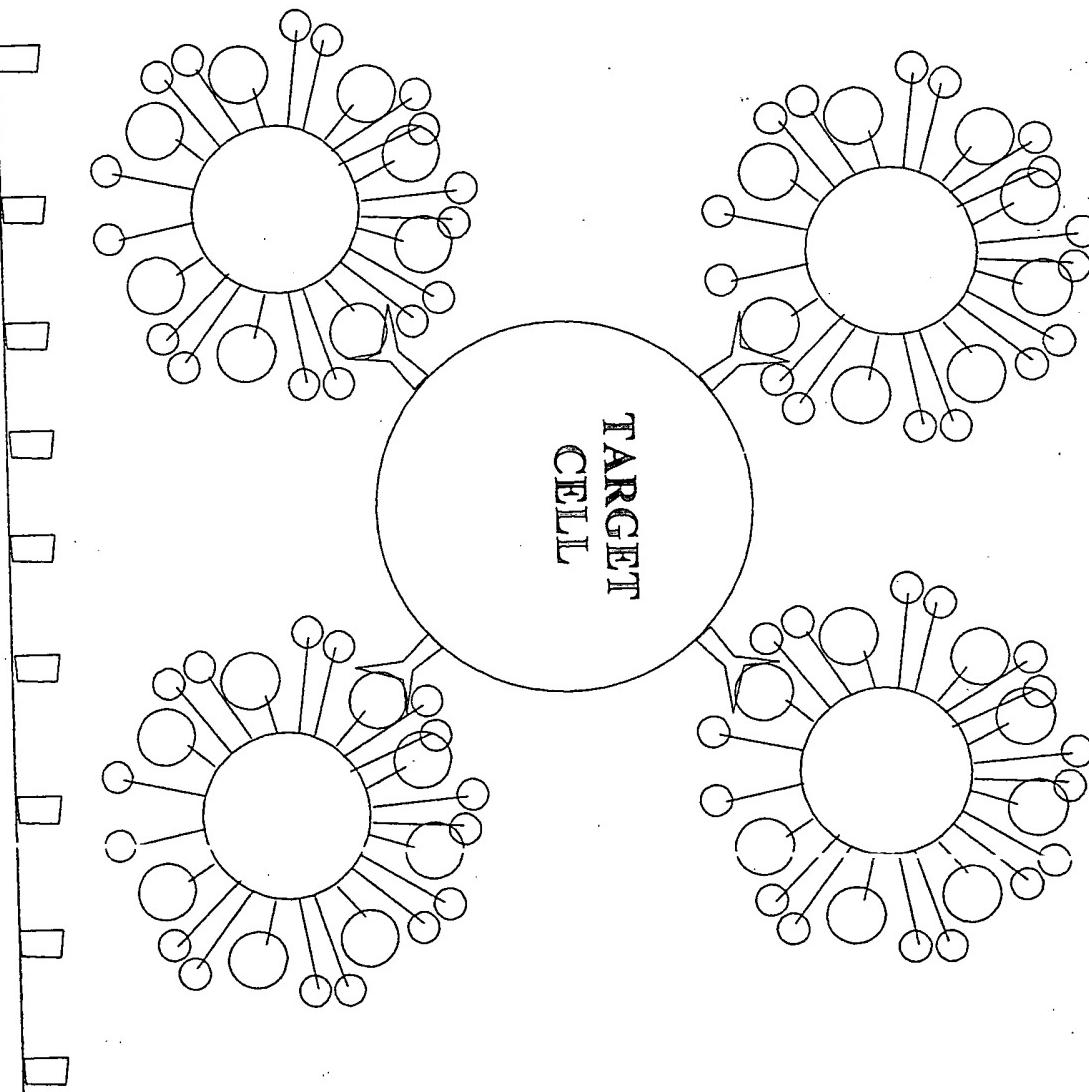


FIG. 2

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
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Figure 3

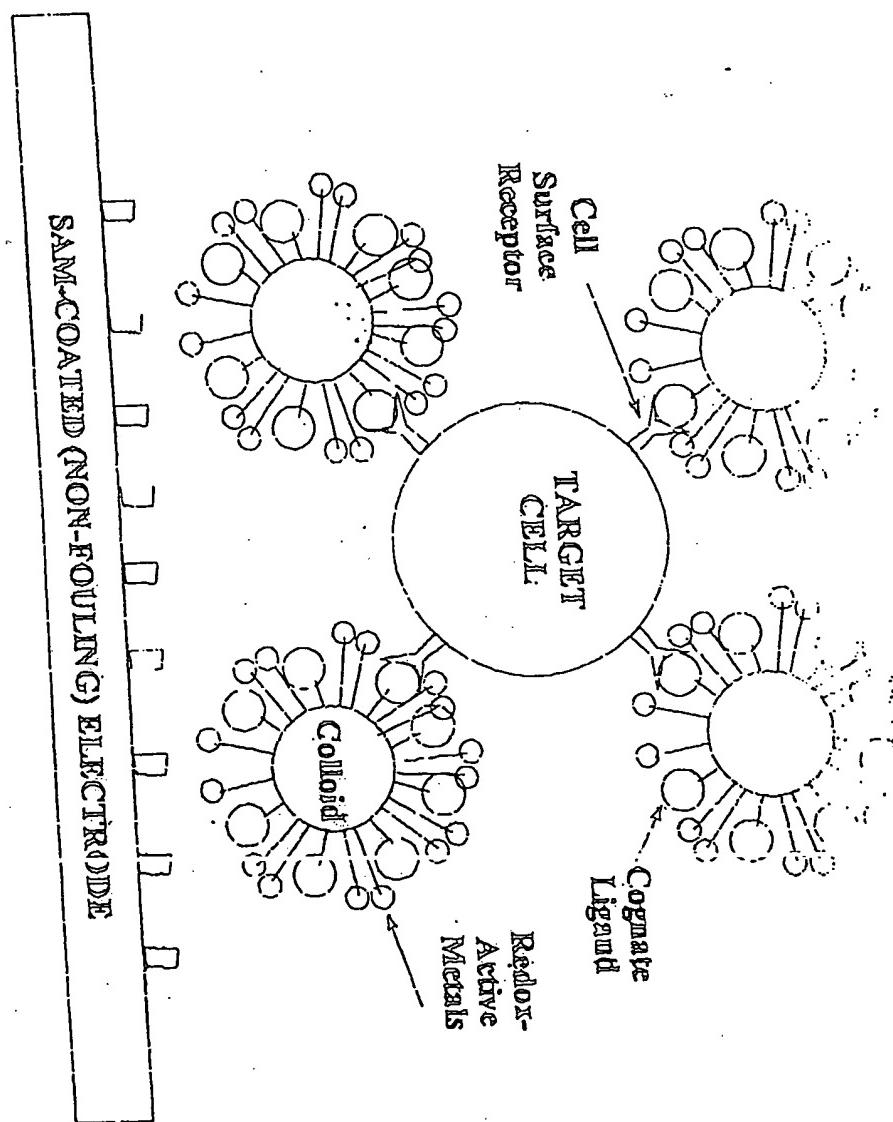
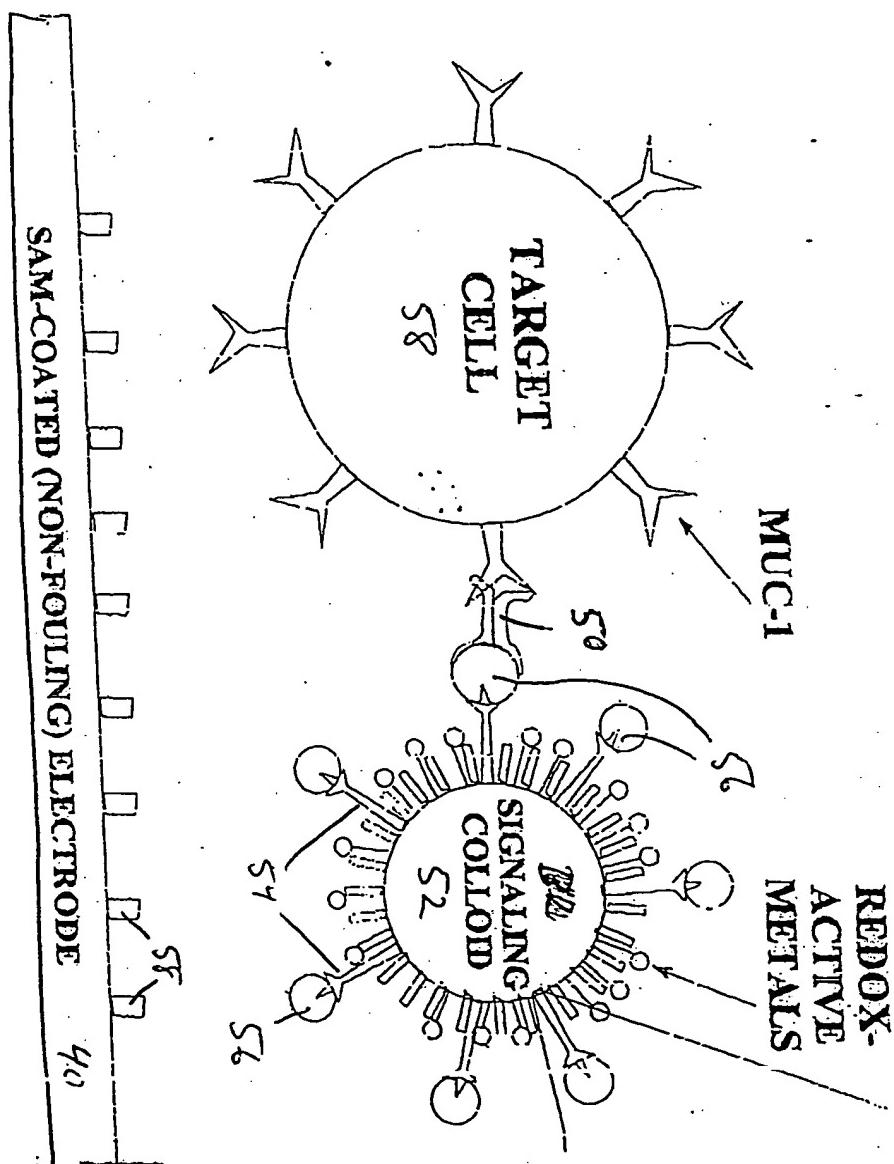


Figure 4



INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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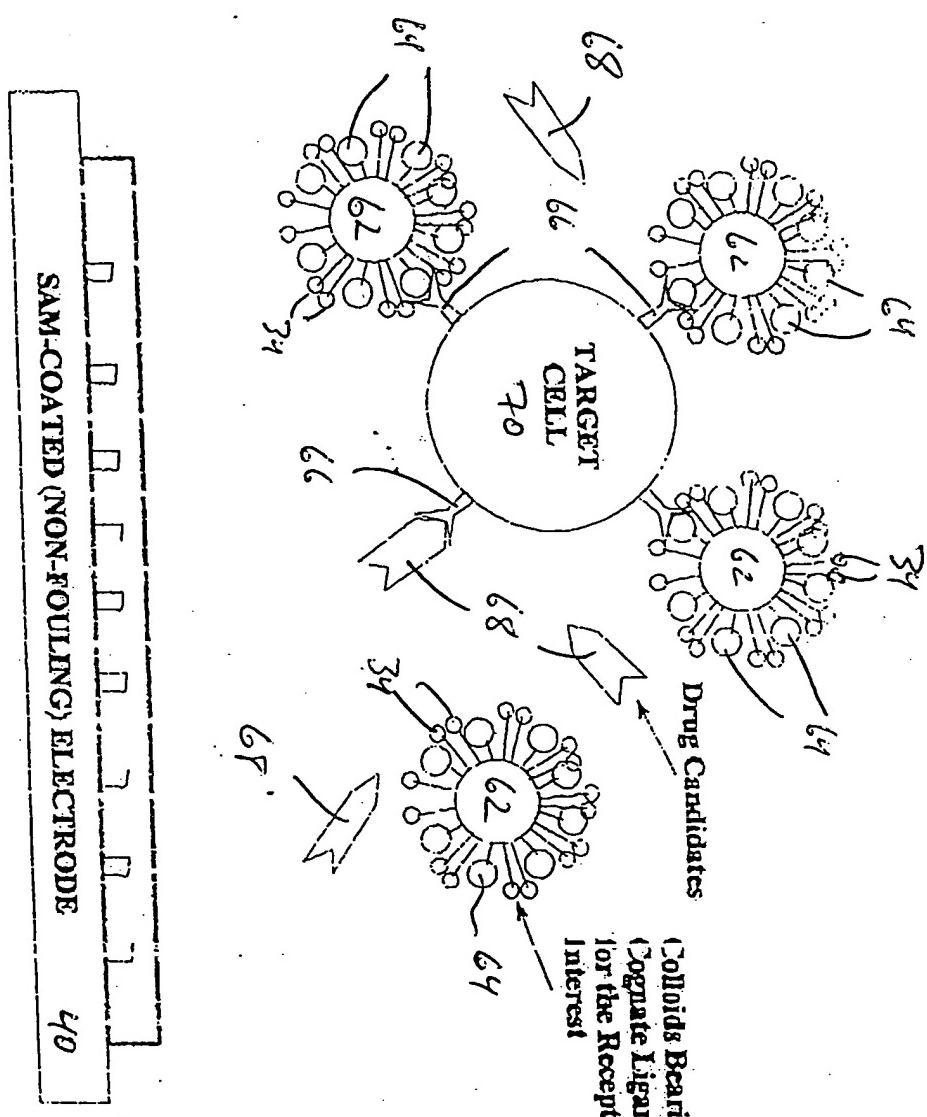
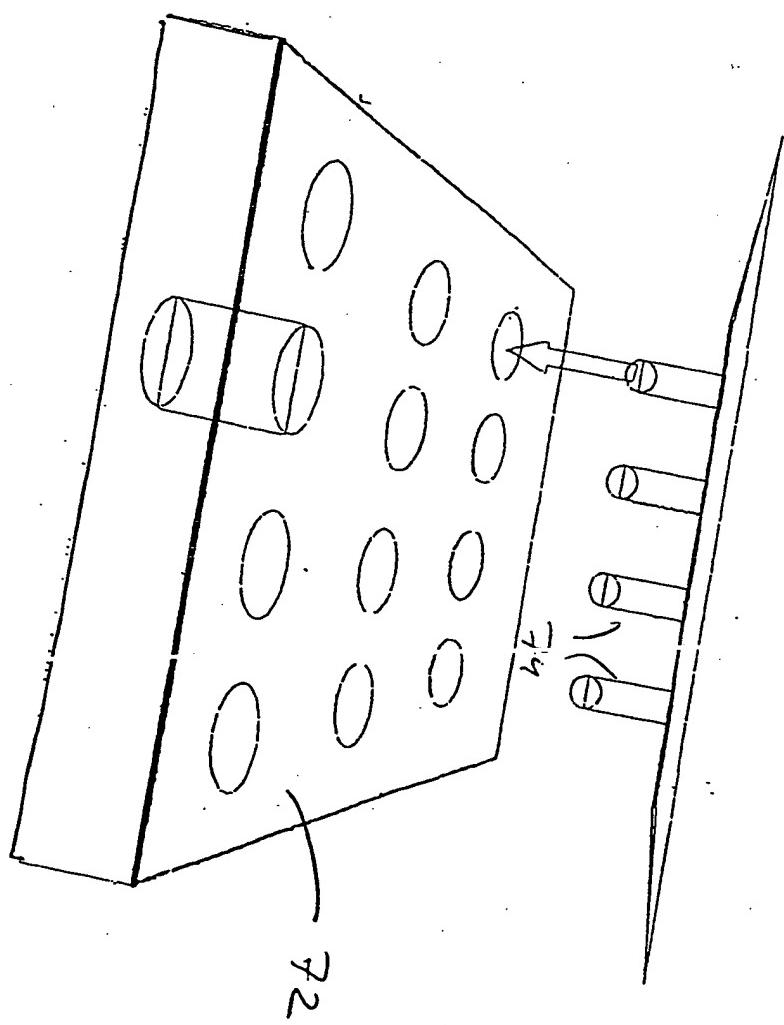


Figure 5

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
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Figure 6



INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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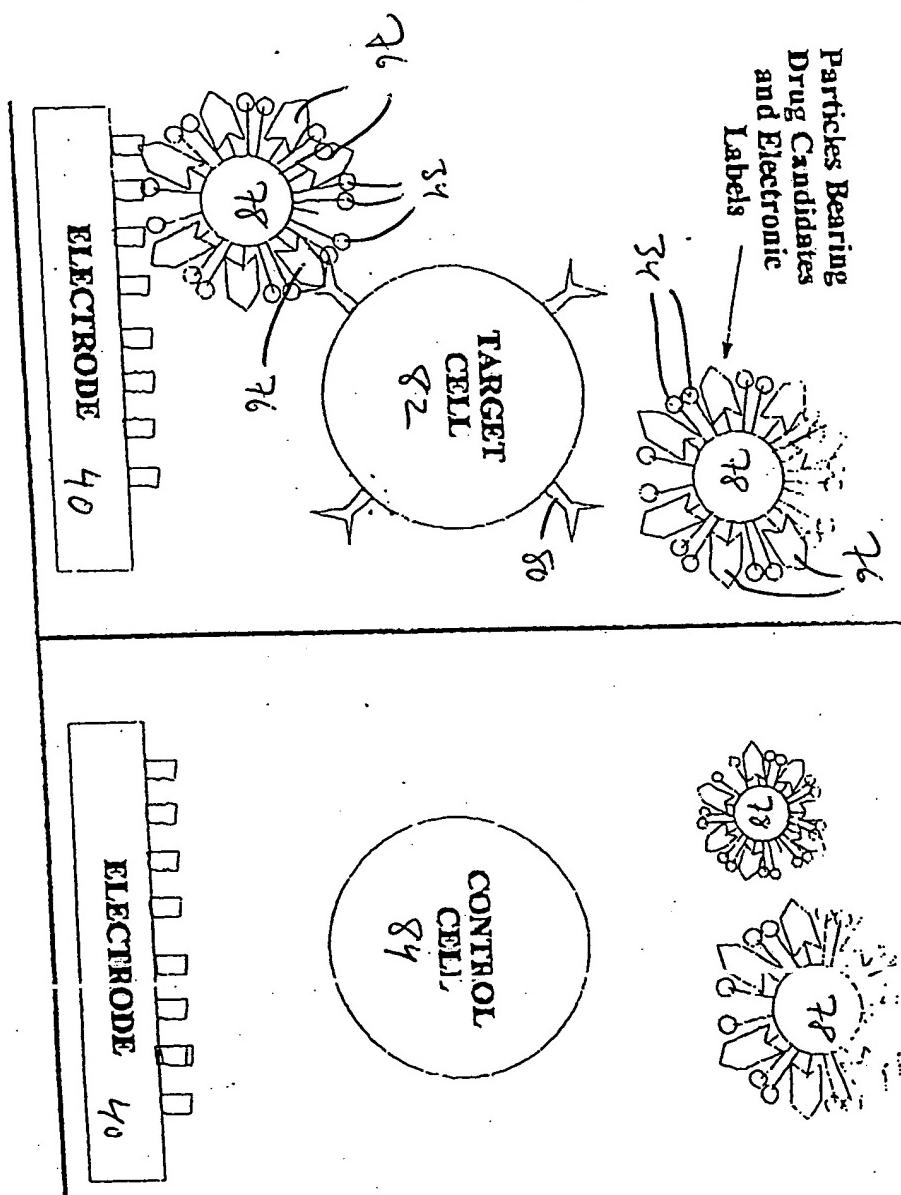


Figure 7

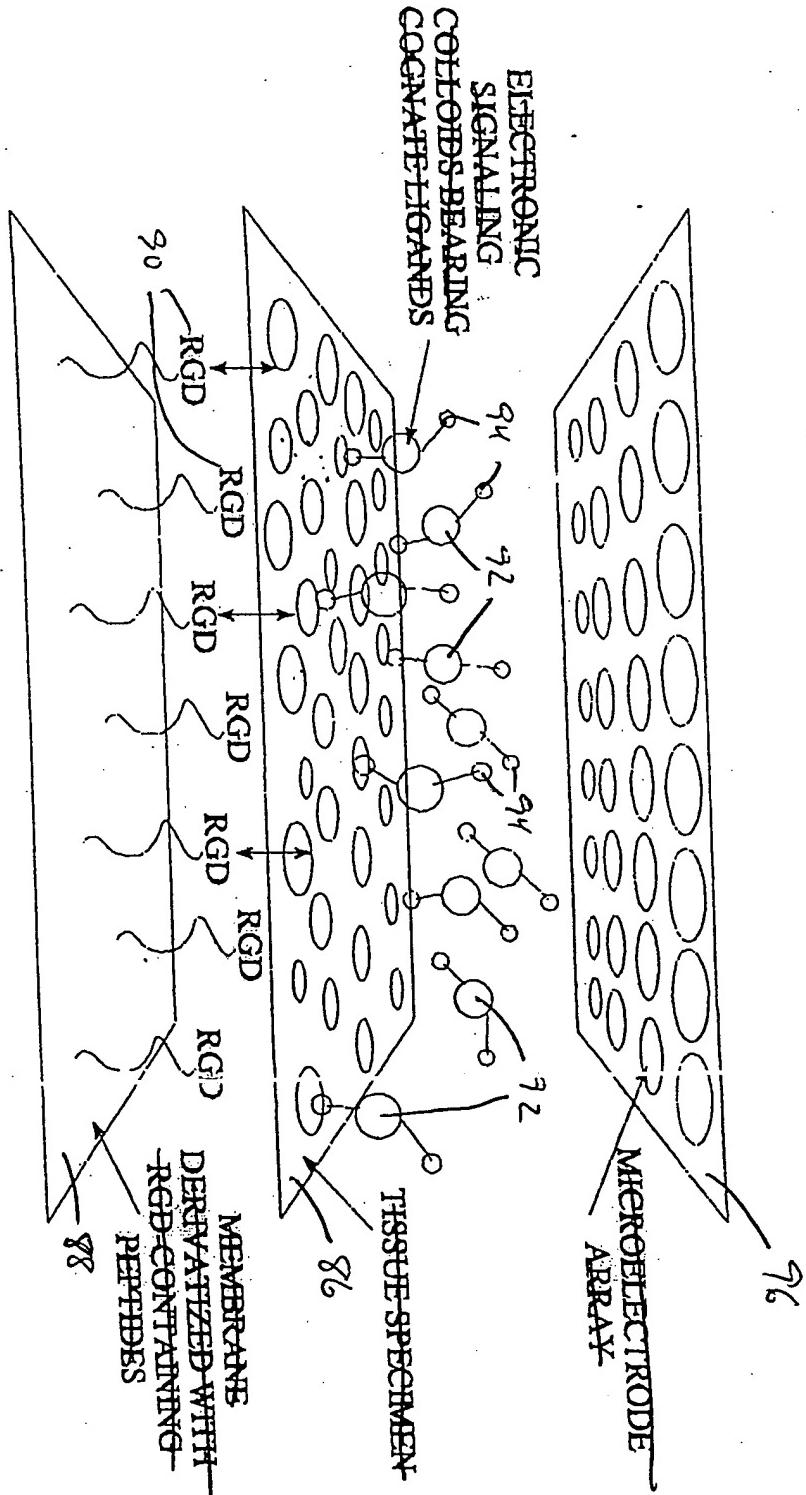


Figure 8

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
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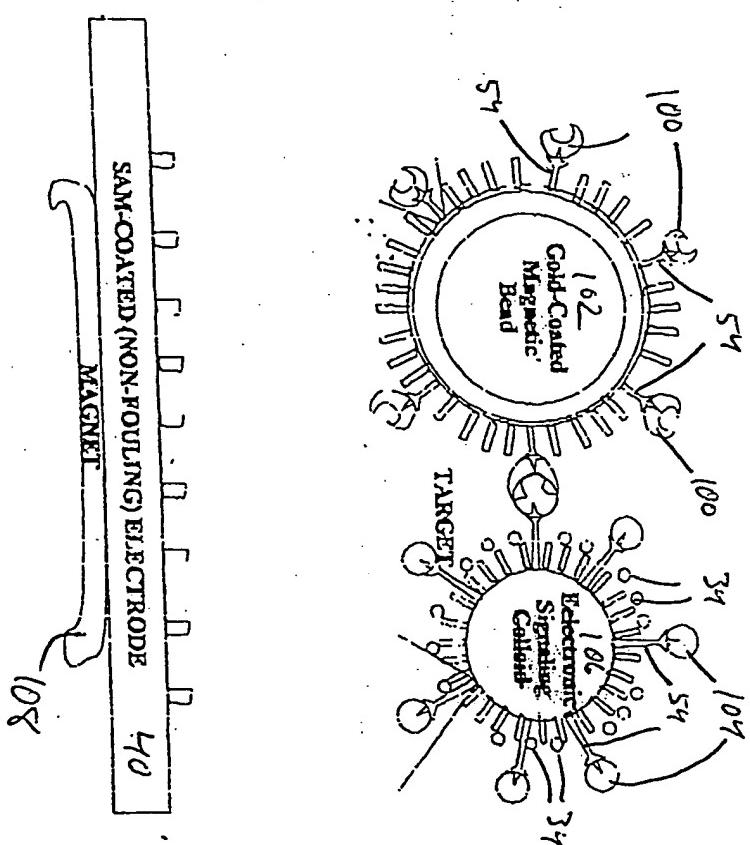


Figure 9

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
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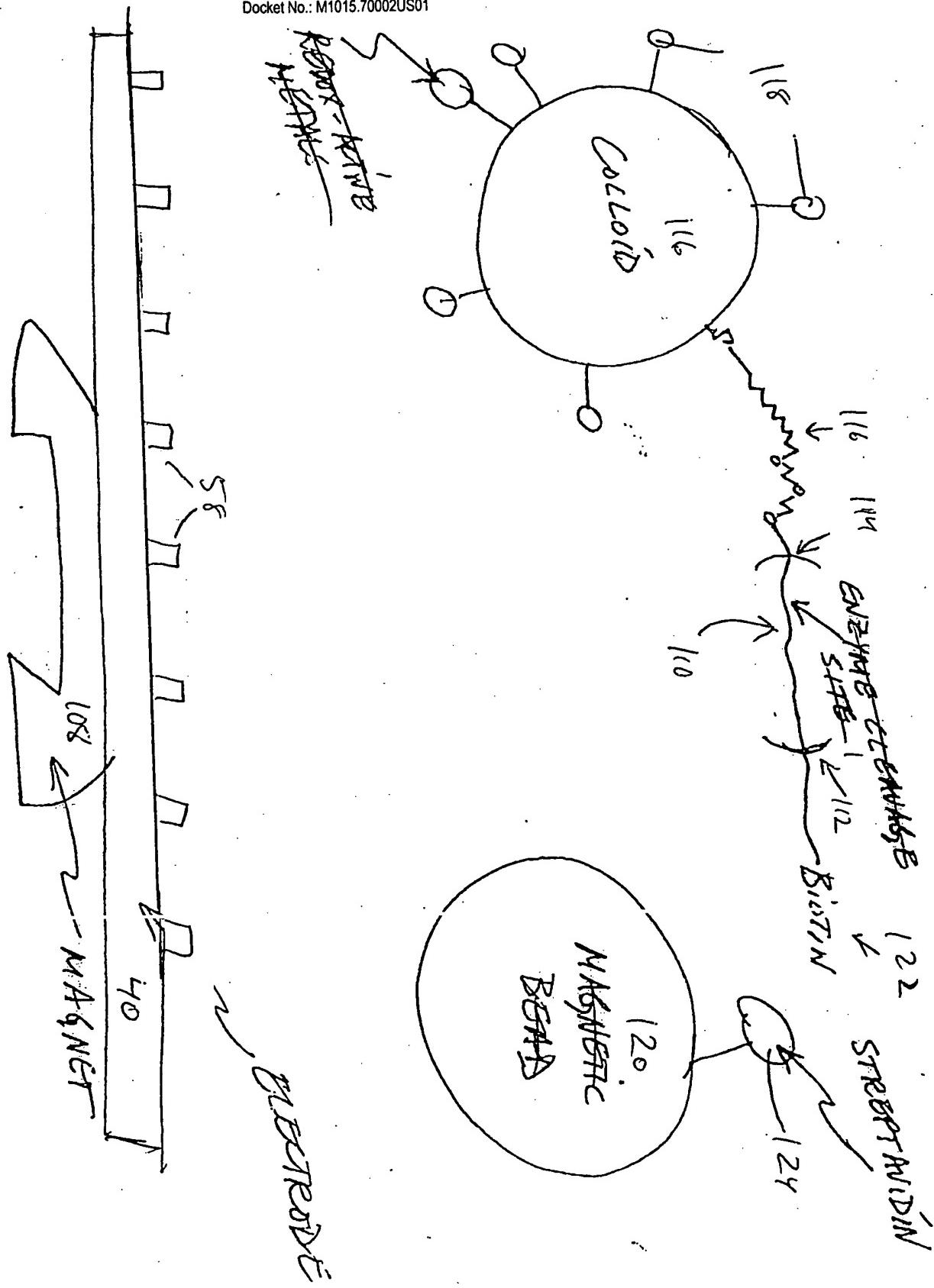


Figure 10

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Barndad et al.
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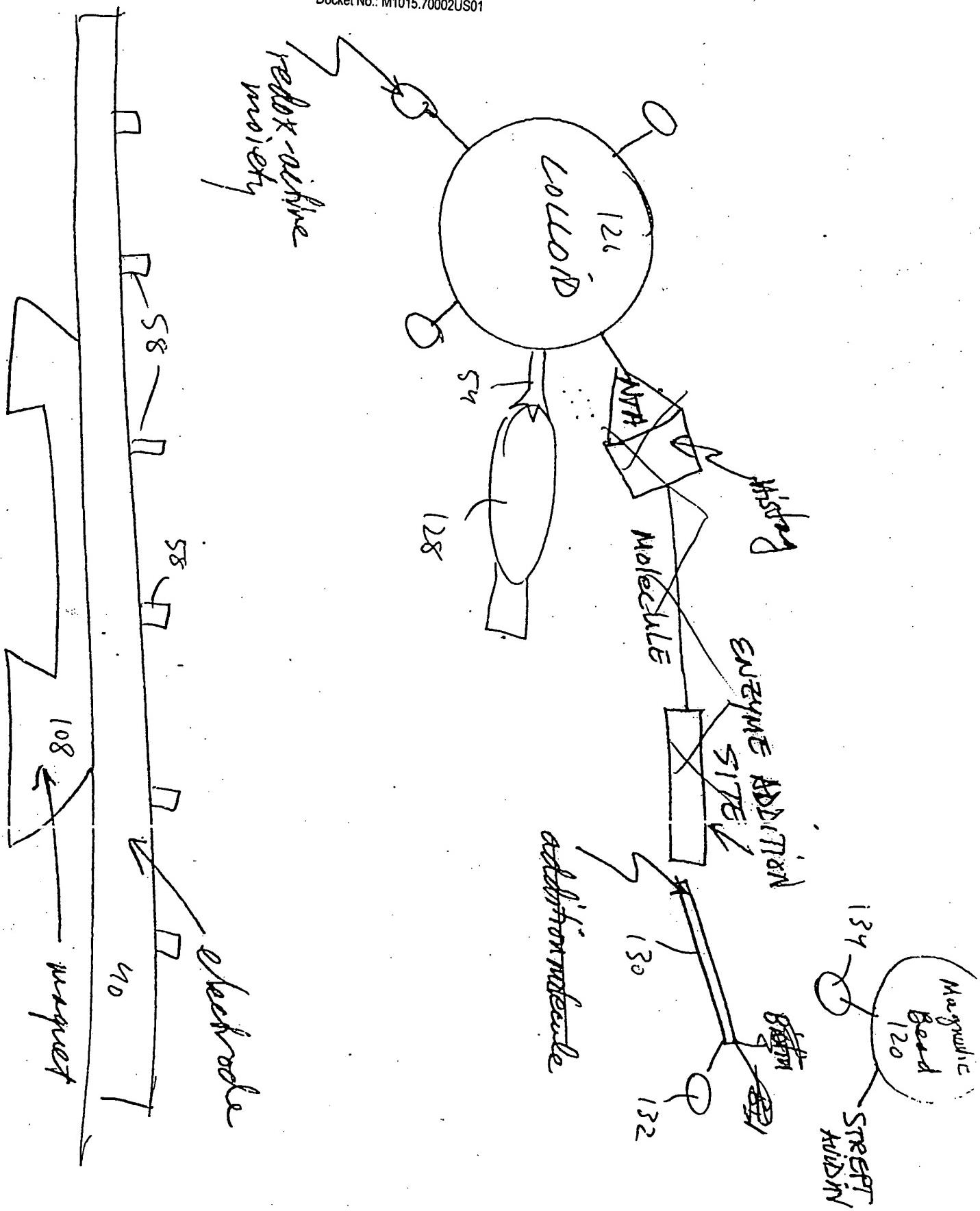


Figure 11

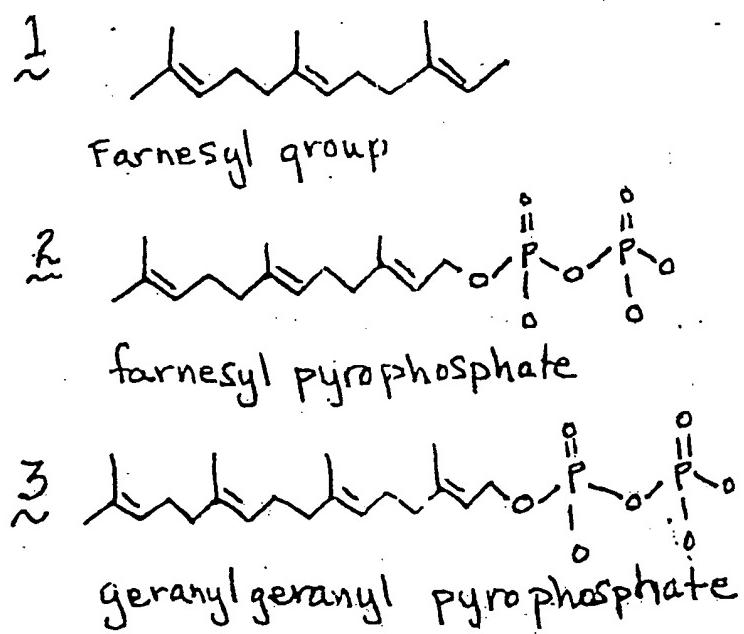
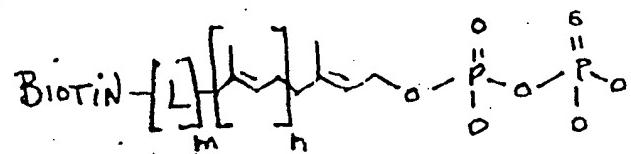


Figure 12

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
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a)

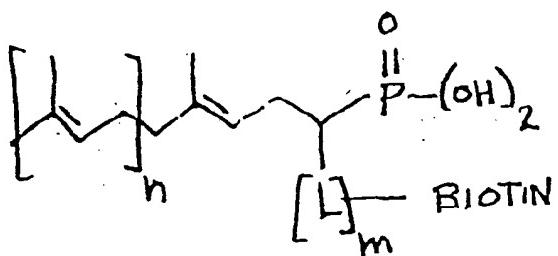


$$n = 0-10$$

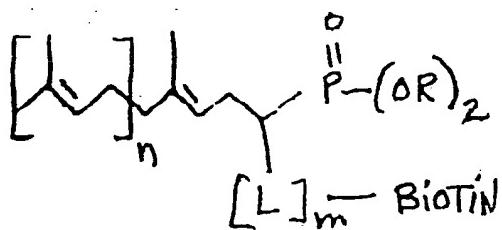
L = Linker

$$m = 0-10$$

b)



c)



d)

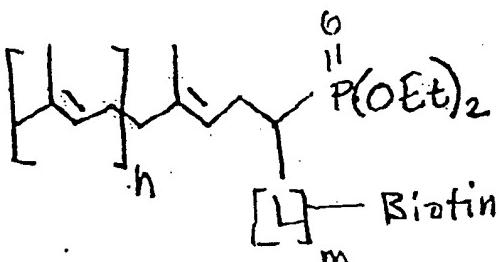


Figure 13

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
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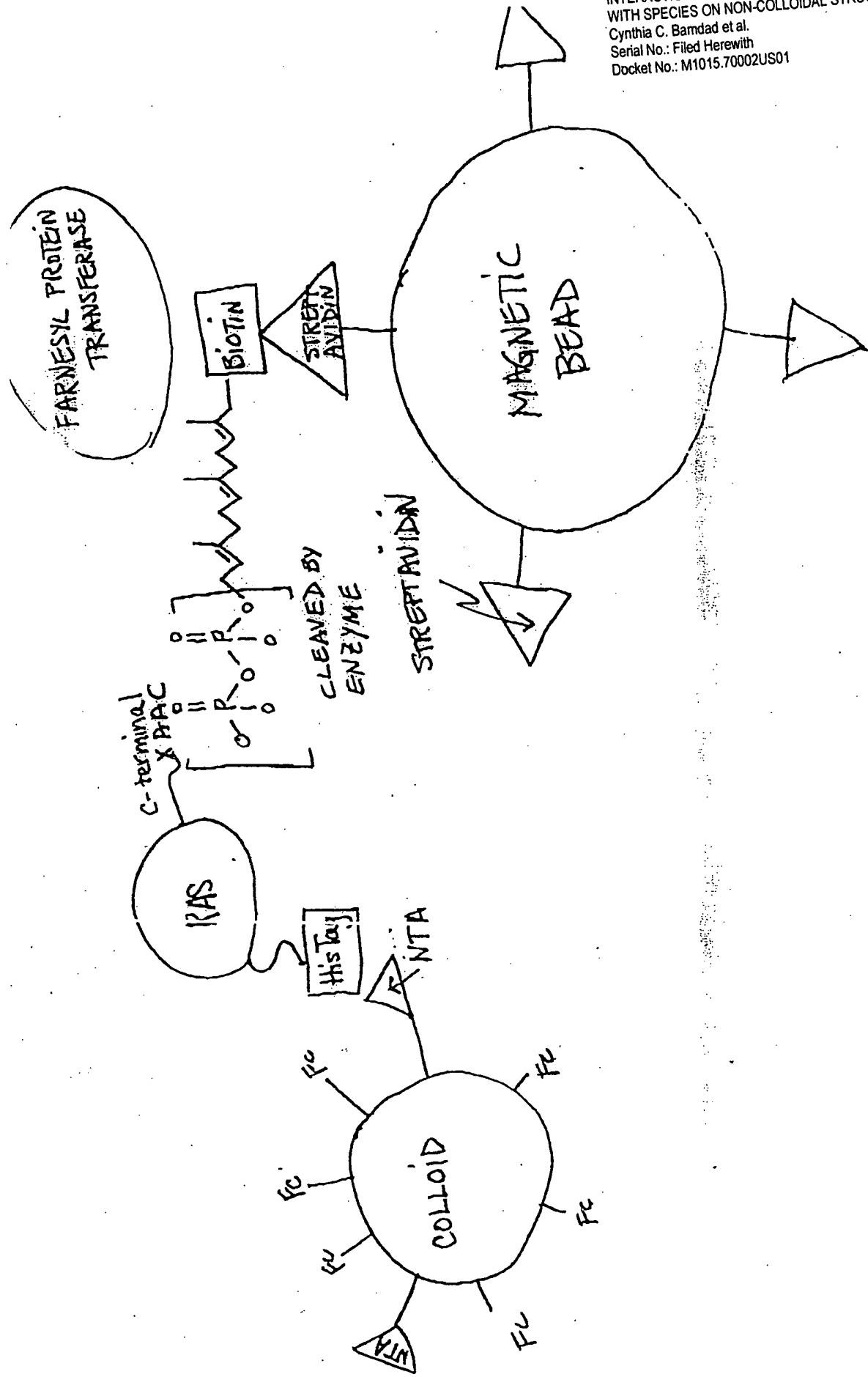


Figure 14

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
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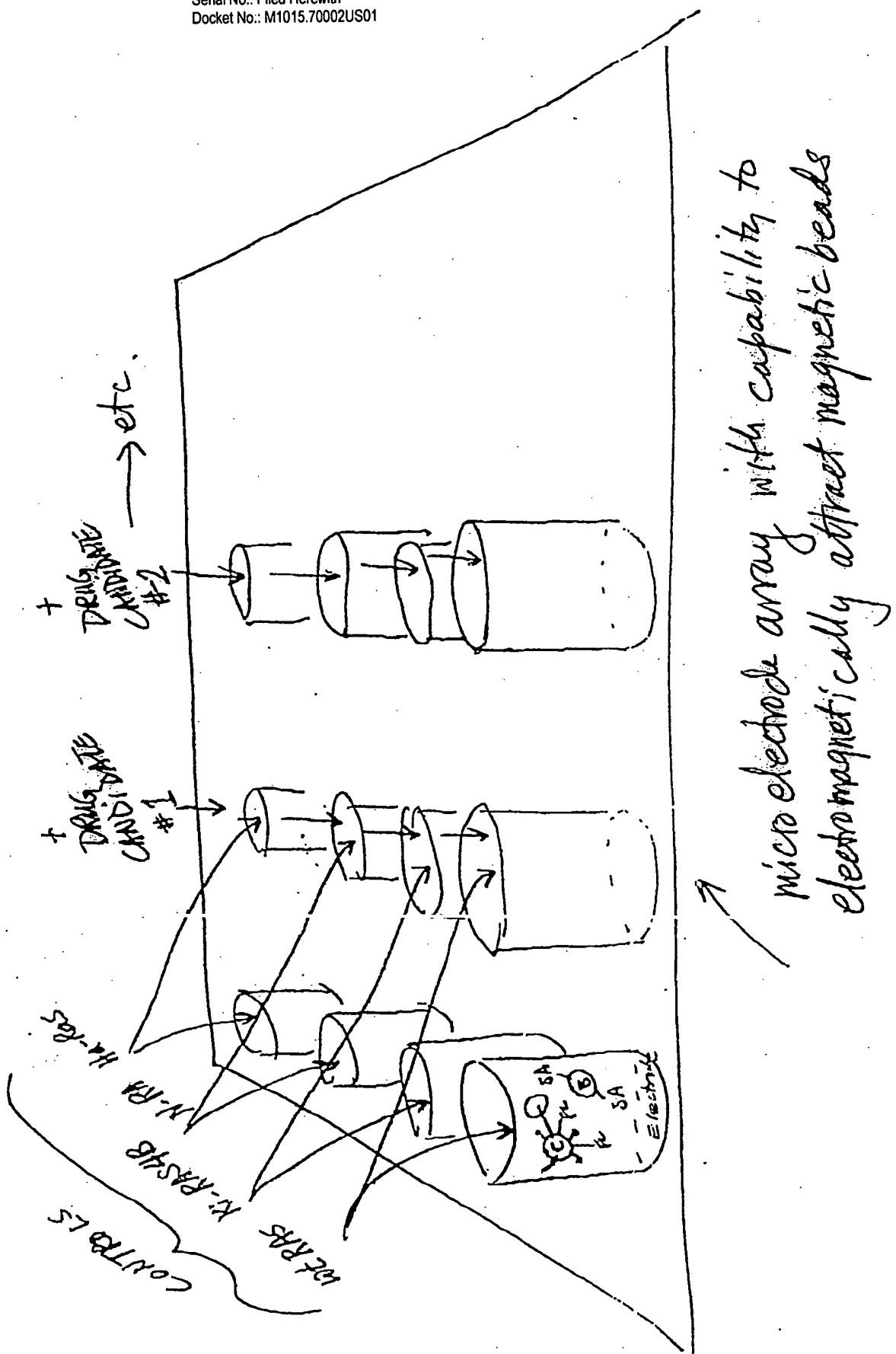


Figure 15

Sept. 28, 1999 21:43:48

Tech: ACV

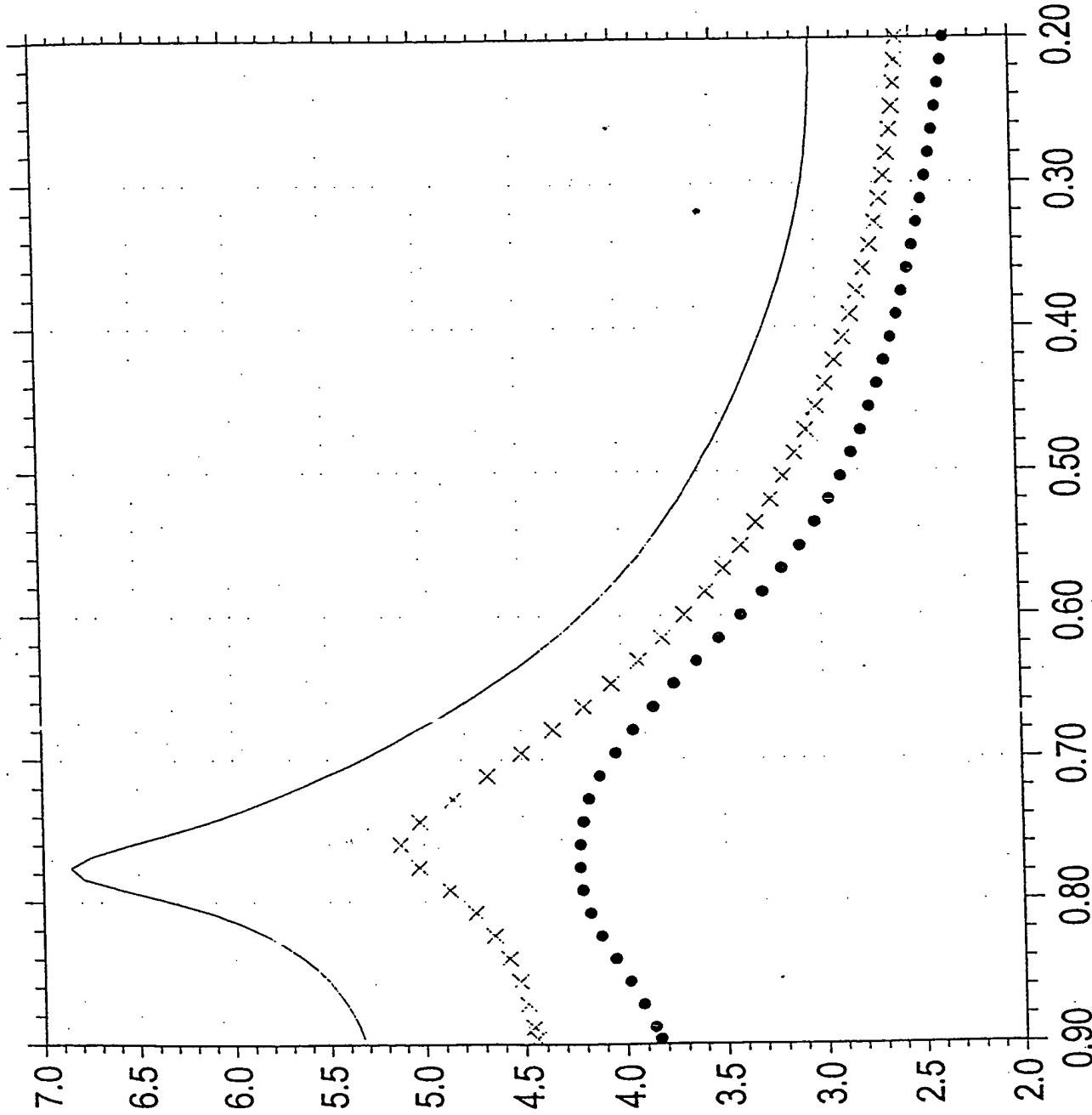
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Final E (V) = 0.9
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 2e-6

- cb038_011.bin
- × cb038_012.bin
- cb038_013.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Fig 1A



AC Current / 1e-6A

Potential / V

Fig. 16

Sept. 28, 1999 22.22.11

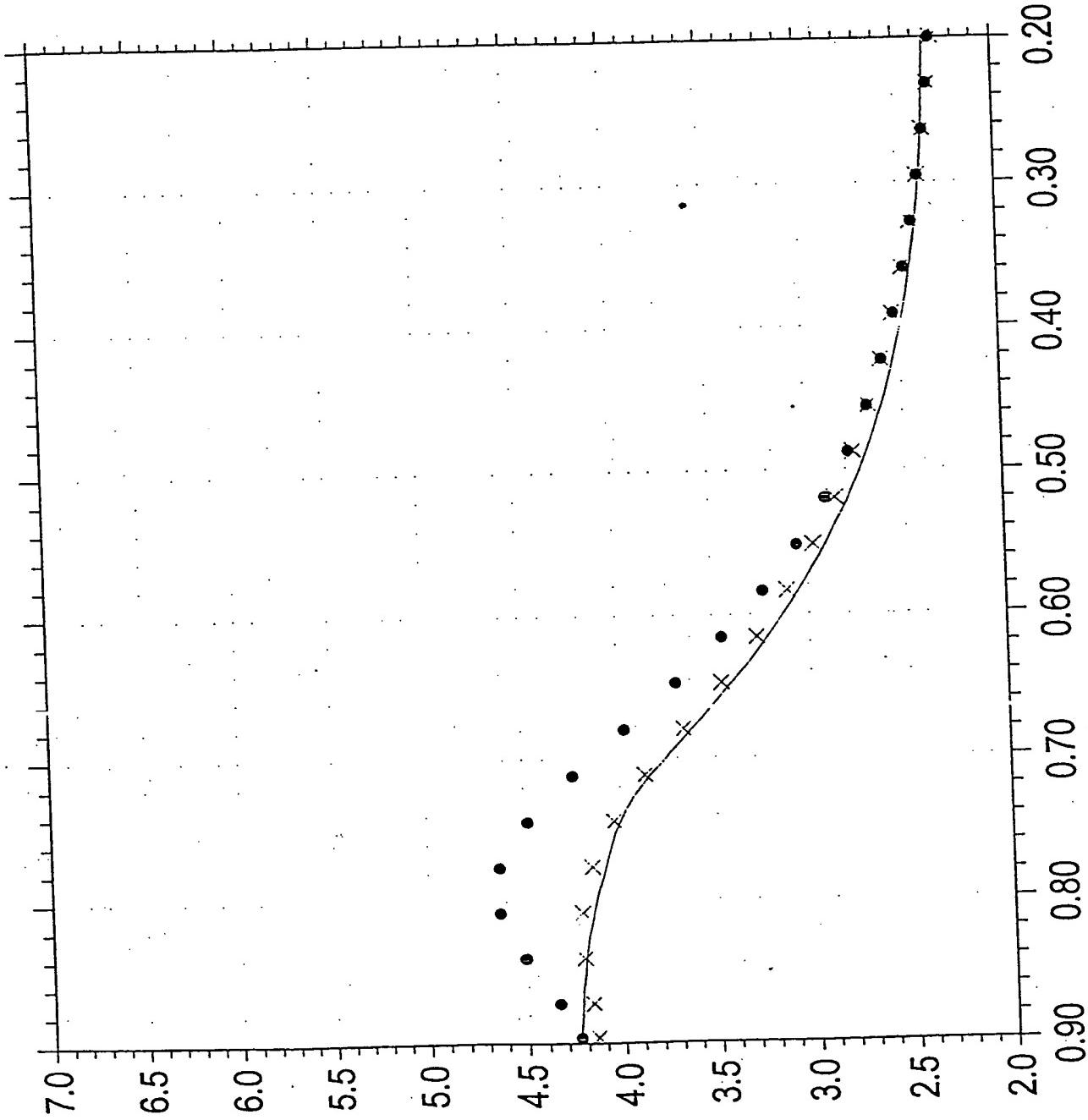
Tech: ACV

File: cb038_014.bin

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Final E (V) = 0.9
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 2e-6

● cb038_014.bin
× cb038_015.bin
— cb038_016.bin

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AC Current / 10^{-6} A

Fig 16

Fig. 17

Potential / V

Oct. 5, 1999 16:34:32

Tech: ACV

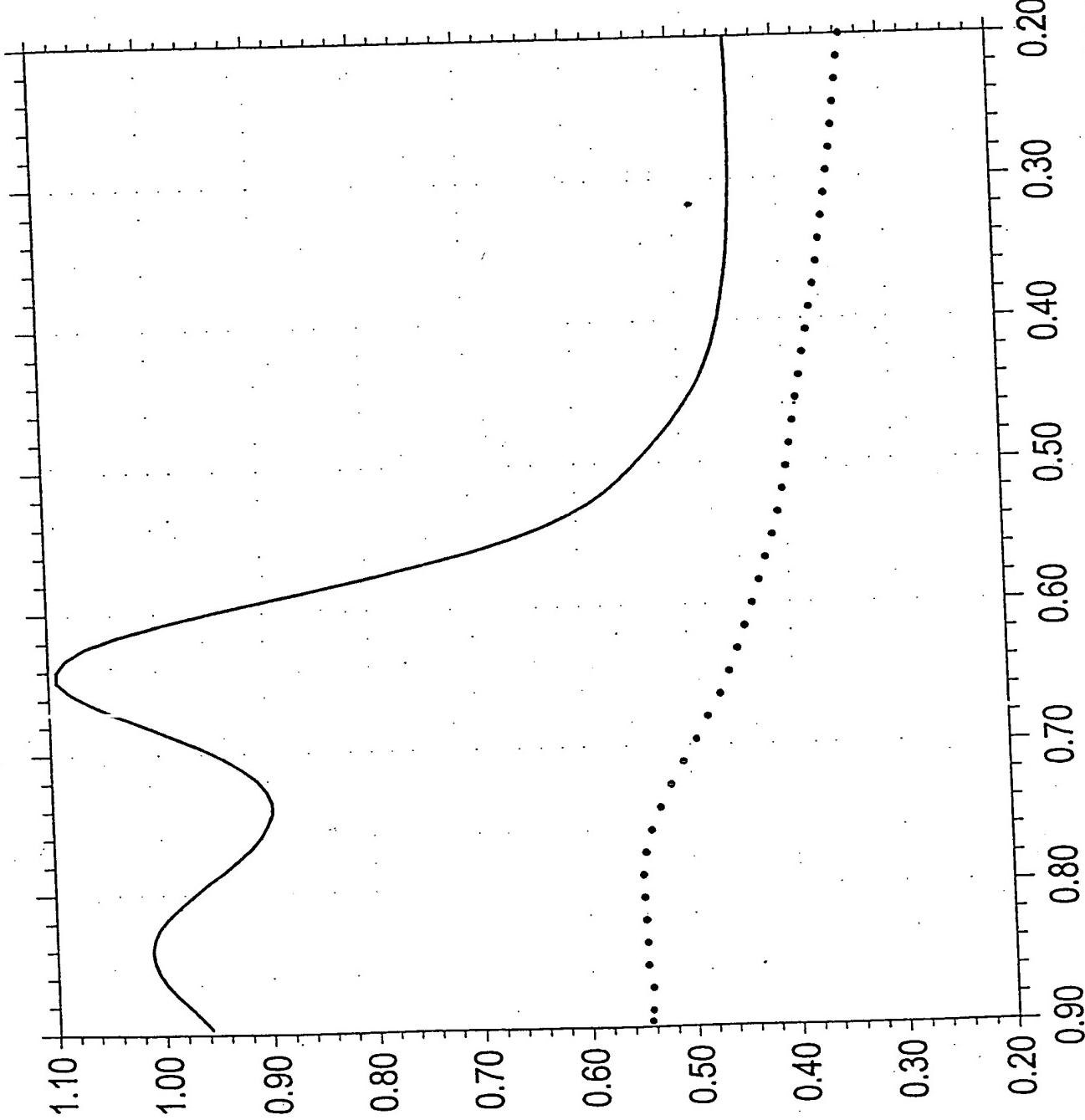
File: cb042_002.bin

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Final E (V) = 0.9
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 2
Quiet Time (s) = 2
Sensitivity (A/V) = 5e-5

— cb042_002.bin
● cb042_005.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Fig. 16



AC Current / 1e-5 A

Potential / V

Fig. 17

HUVECs on electrodes coated with 25% HIFU - raw versus

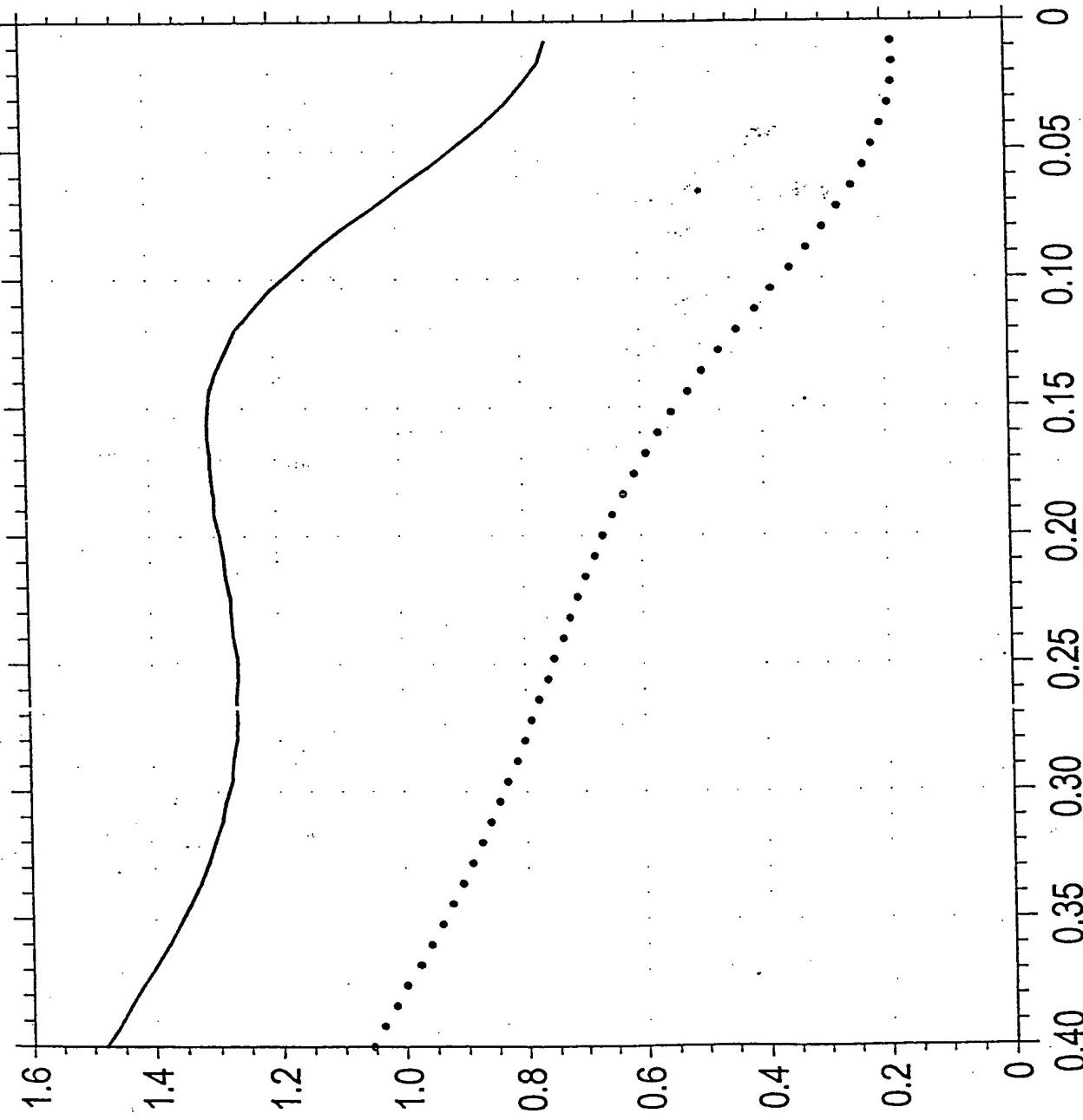
Oct. 6, 1999 14:26:57
Tech: ACV
File: cb042ba15

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Final E (V) = 0.9
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 5e-5

— cb042ba15
● cb042b16.bin

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Fig 3



16.9

AC Current / $1e-6A$

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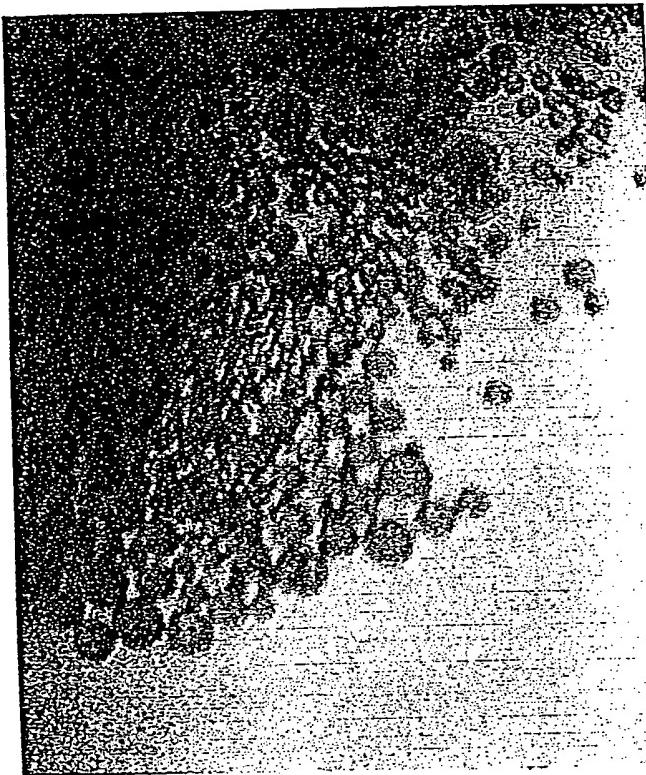


Fig 20

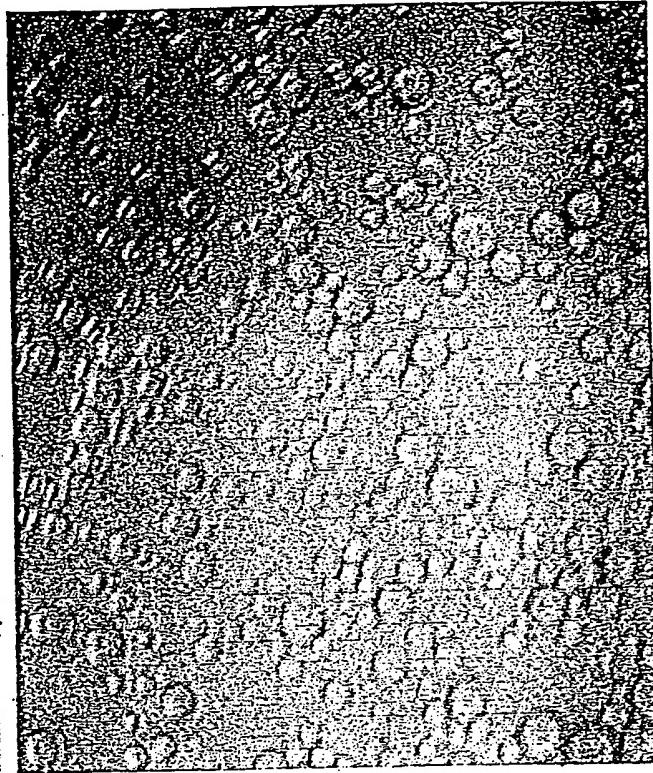


Fig 21

0 0 0
25 34 8
50 12 57
65 107 98
80 220 194

Fig 4

**Current peak height as a function of molecular
wire density in SAM**

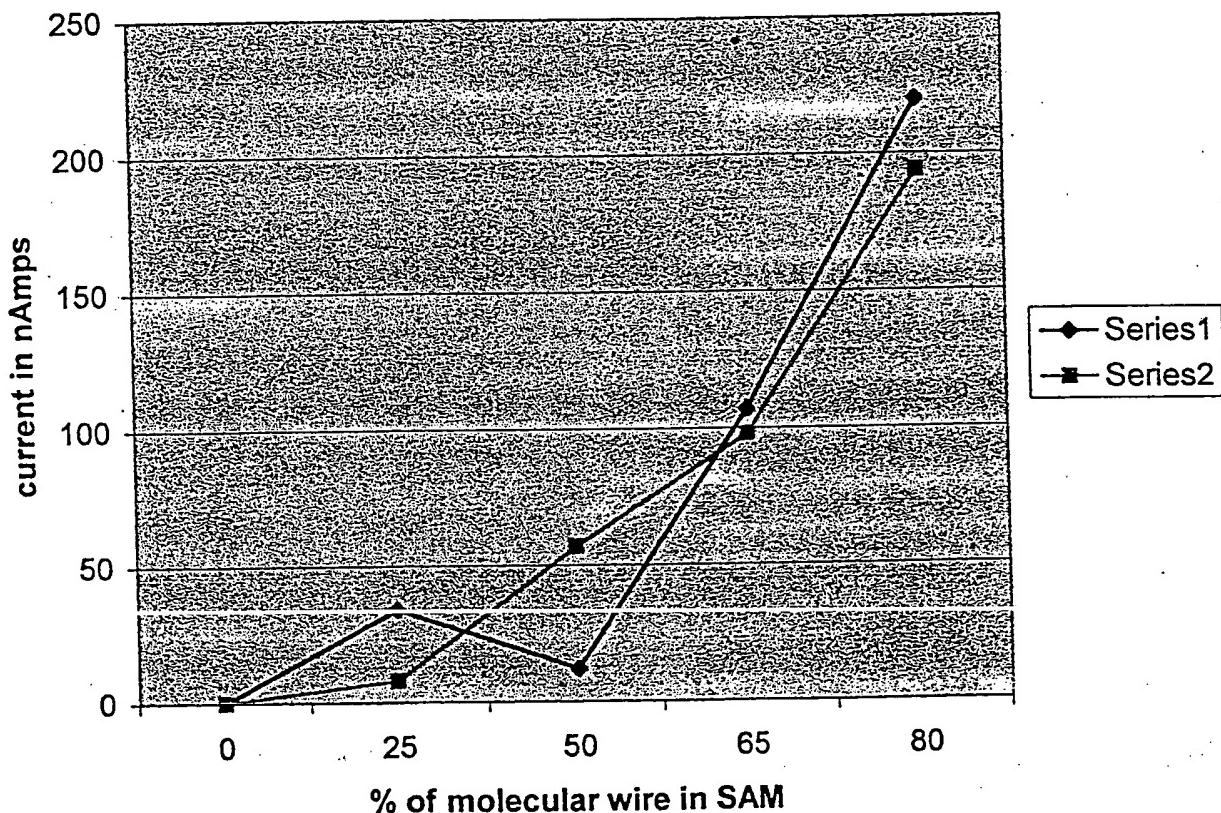


Fig. 22

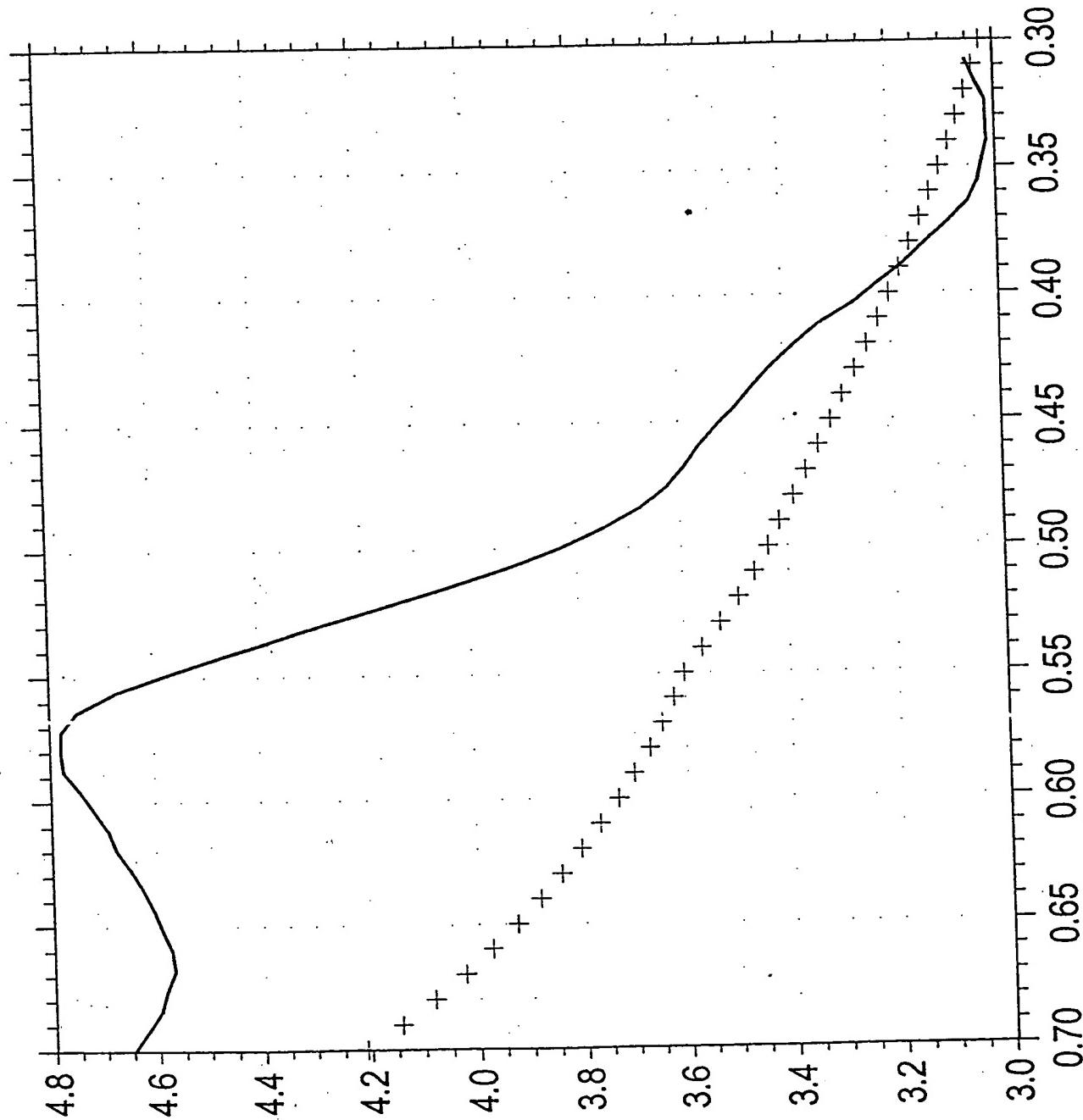
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File: cb040_019.bin

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Final E (V) = 0.7
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 1e-4
— cb040_019.bin
+ cb040_001.bin

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Ric Sb



AC Current / 1e-6A

Potential / V
Fig. 23

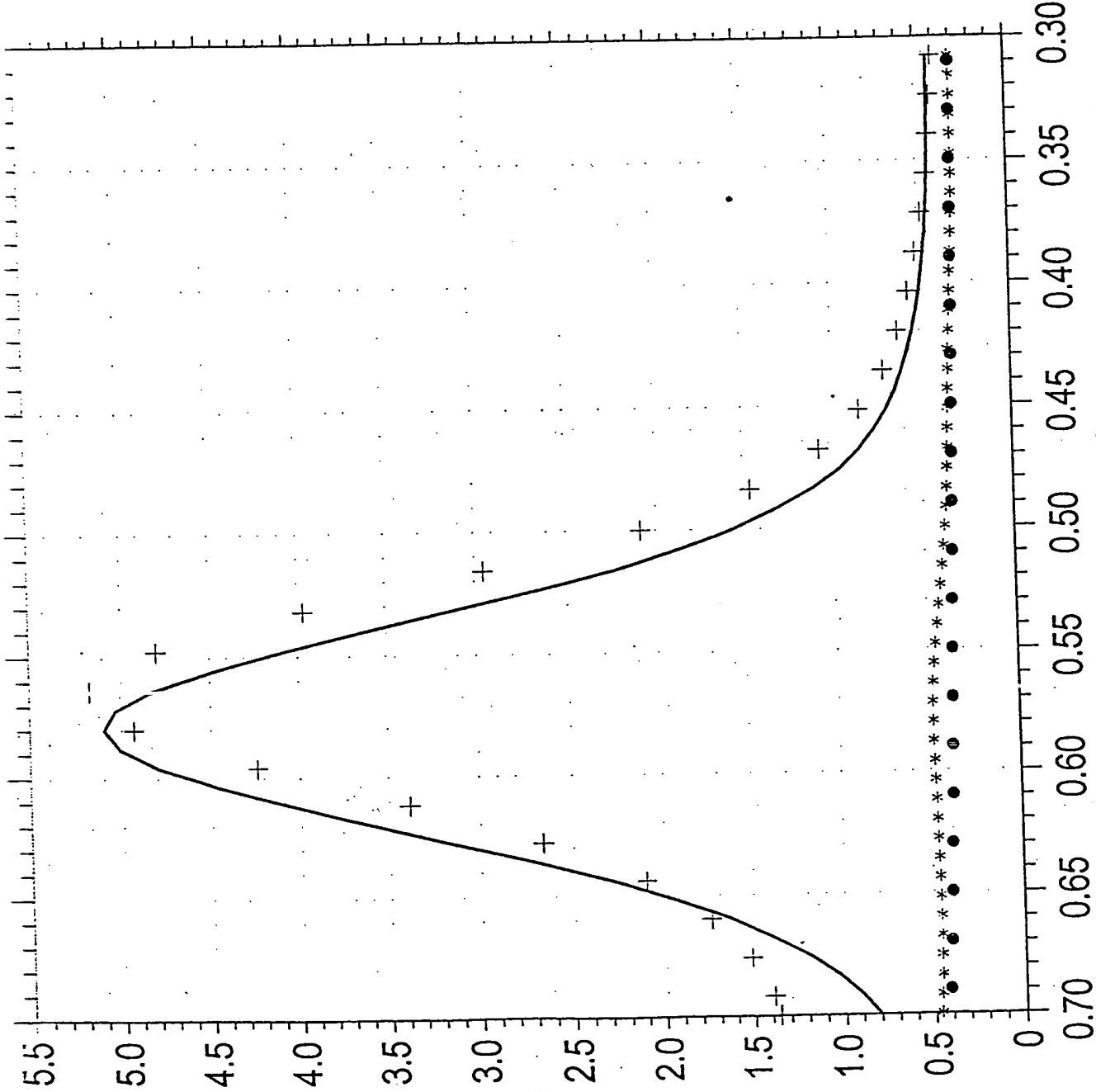
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Final E (V) = 0.7
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 1e-4

— cb040_006.bin
+ cb040_011.bin
* cb040_019.bin
● cb040_001.bin

Fig 6a
INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
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16.29

Jan. 11, 2000 12:38:39

Tech: ACV

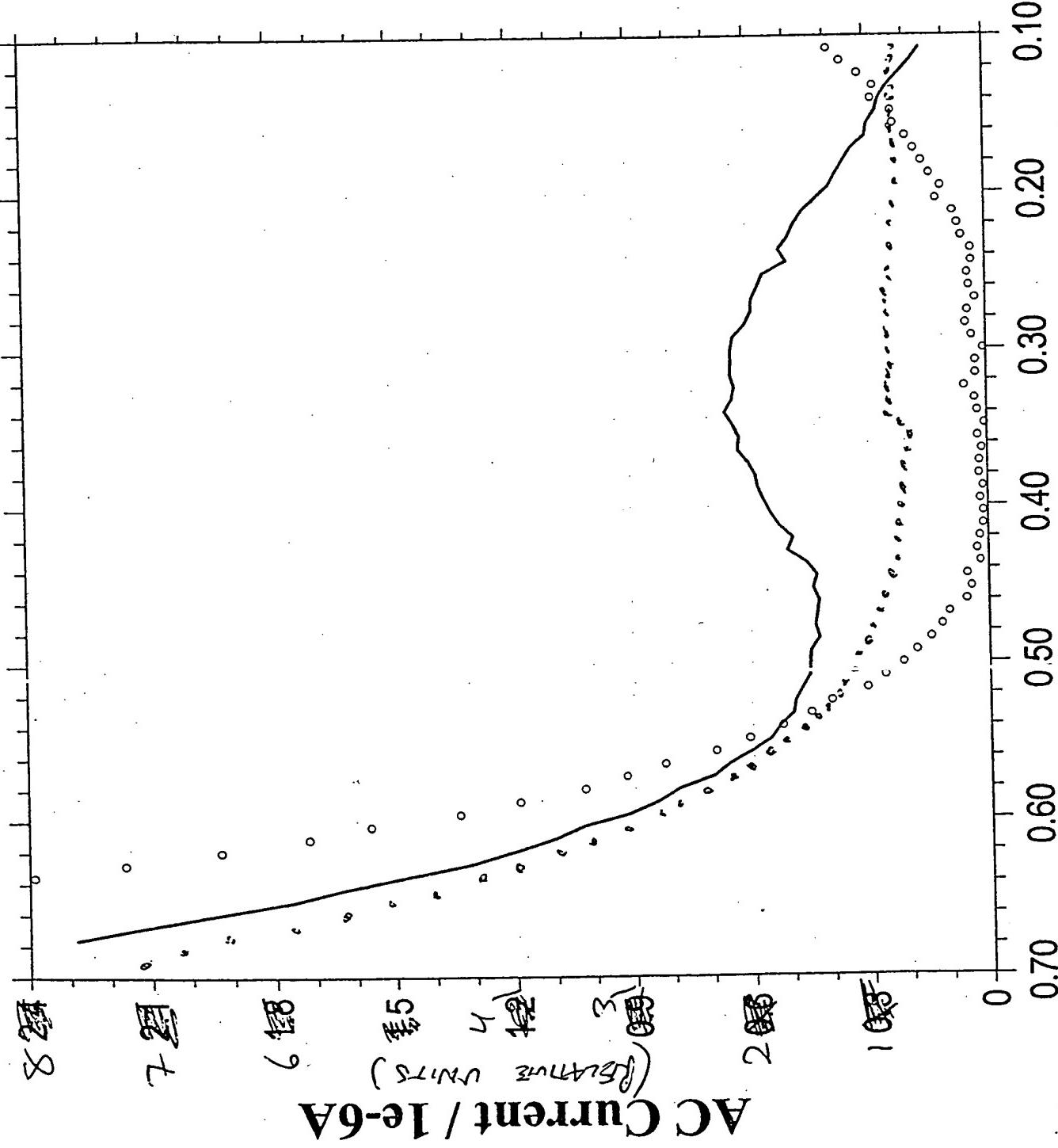
File: sb062_007bb

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Final E (V) = 0.7
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 5e-4

— sb062_007bb

○ sb062_012bb.bin

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Potential / V

Fig. 25

Nov. 24, 1999 11:23:34

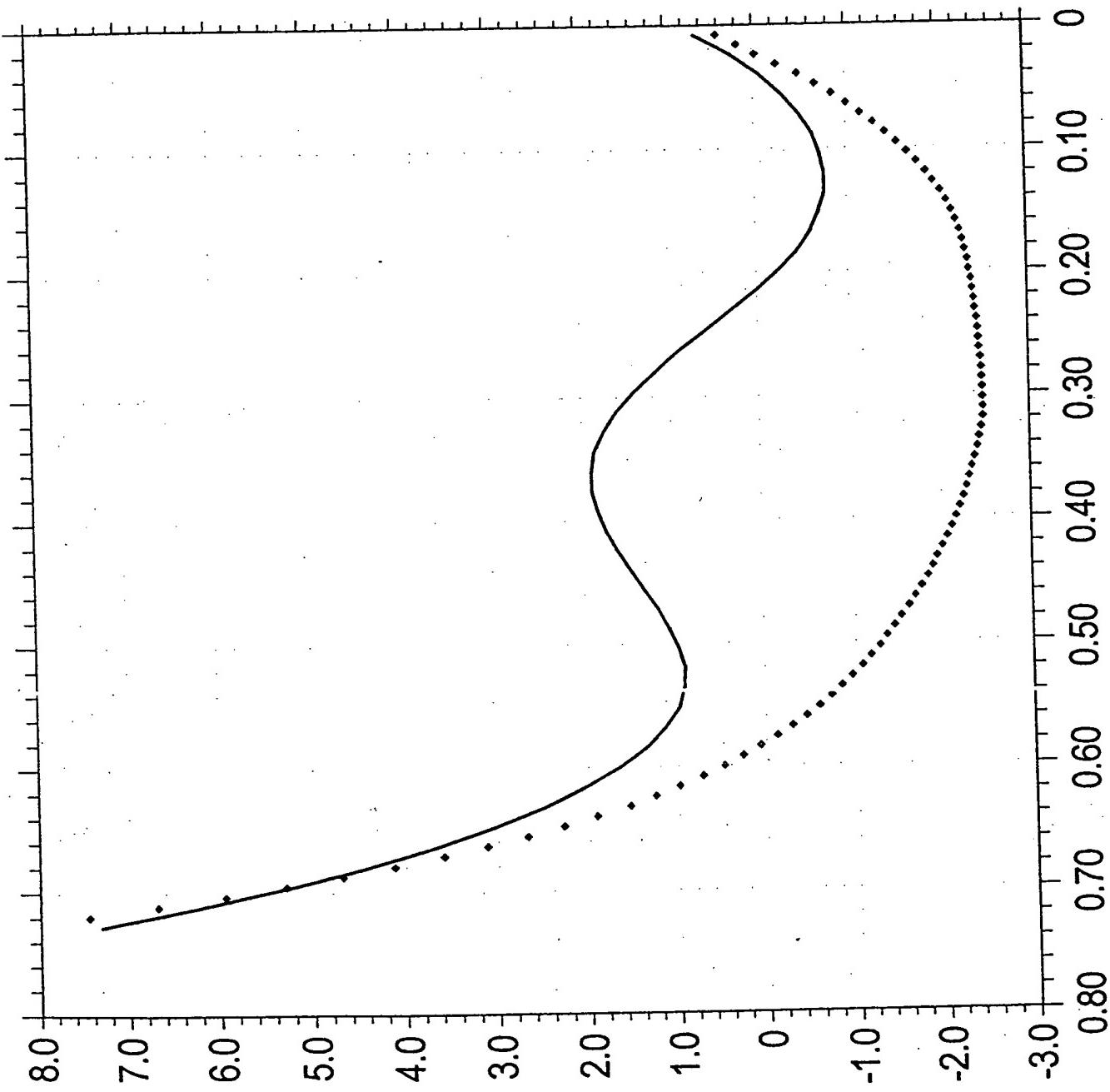
Tech: ACV

File: negconbb.bin

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Final E (V) = 0.8
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 1e-5

◆ negconbb.bin
— posconbb.bin

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AC Current / $1e-7 A$

Potential / V

Fig. 26

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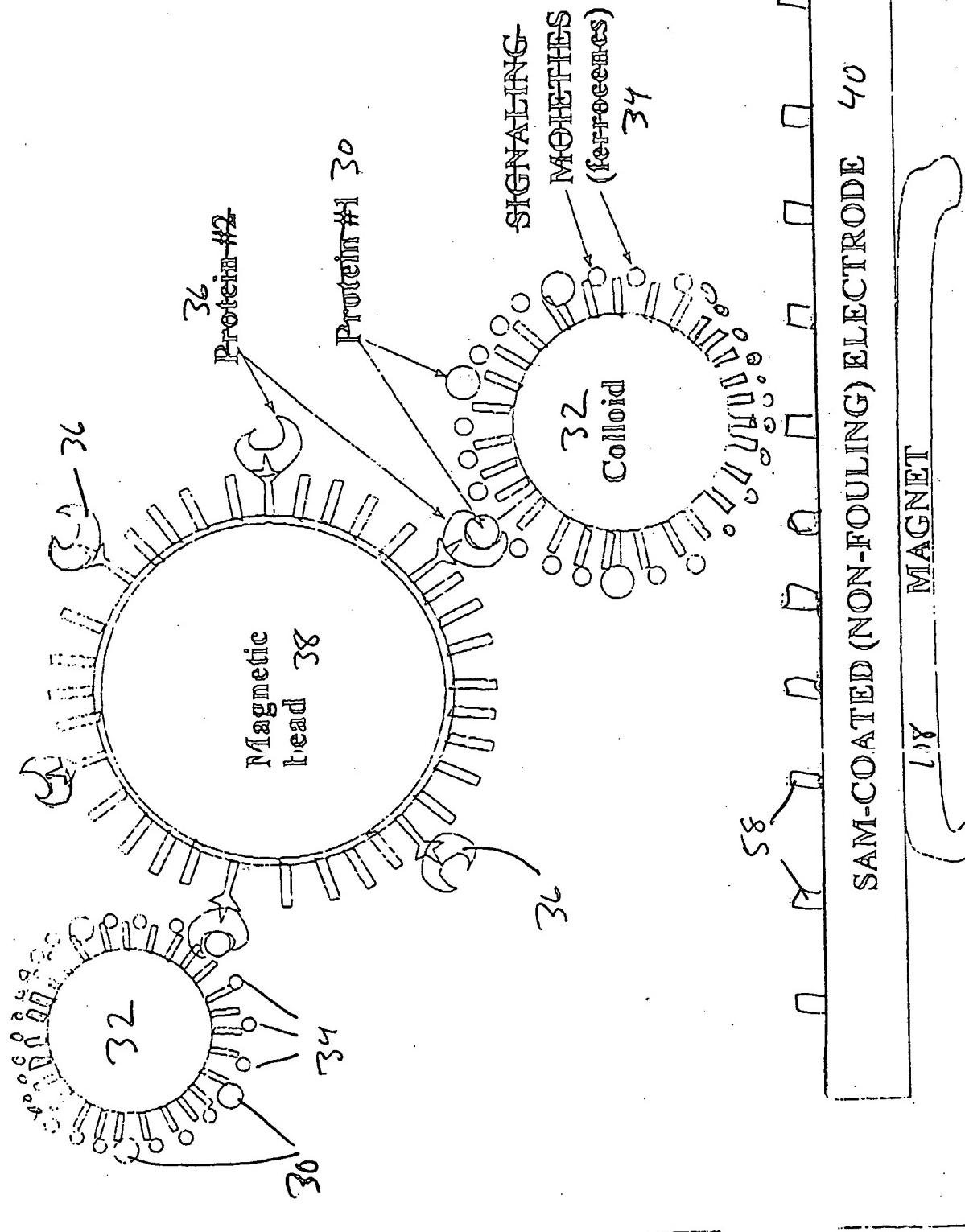


Fig. 27

roteins in close proximity to ferrocene all show a similar response

Sept. 2, 1999 20:20:54

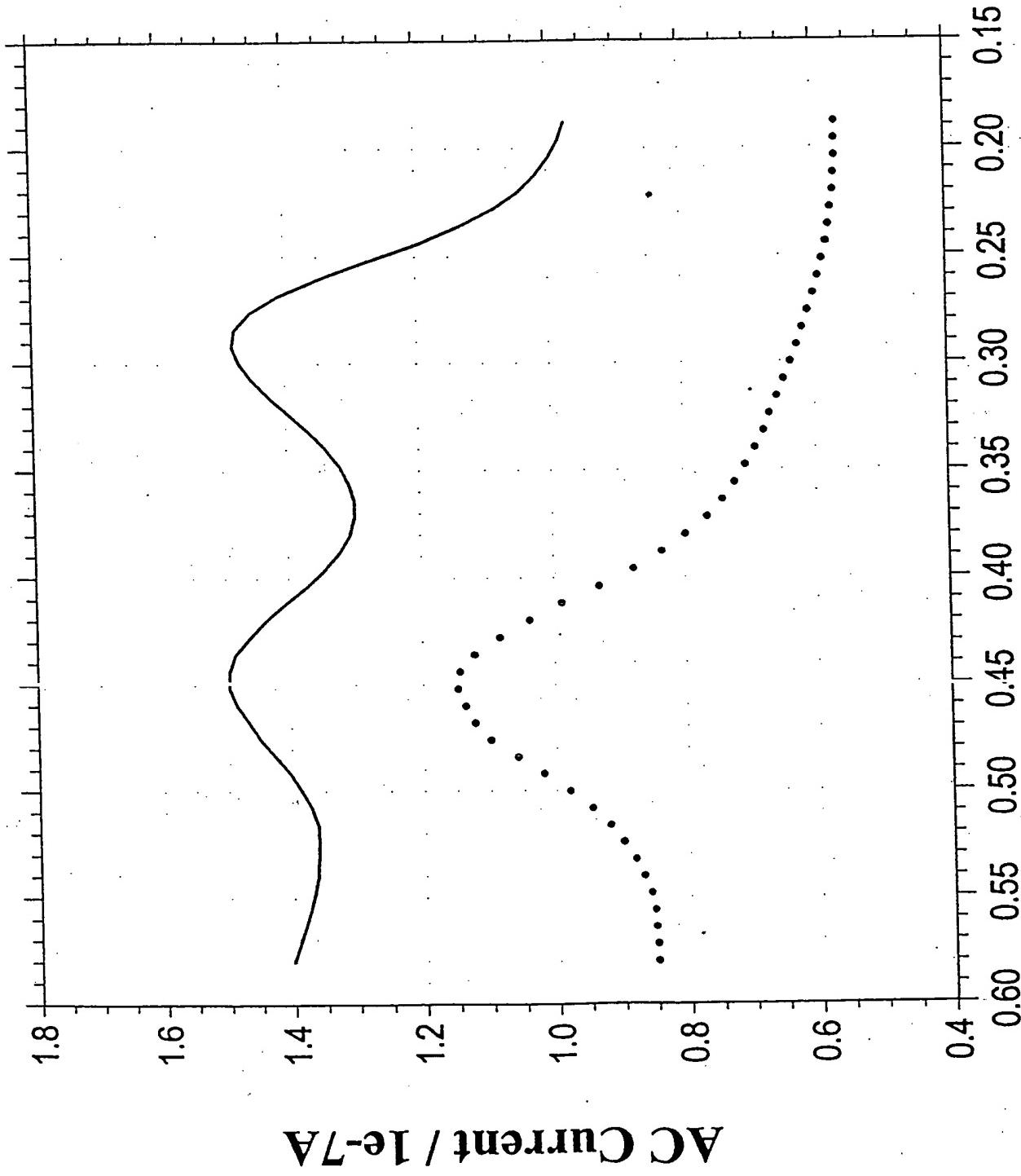
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File: cb027_009.bin

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Final E (V) = 0.58
Incr E (V) = 0.008
Amplitude (V) = 0.025
Frequency (Hz) = 10
Sample Period (s) = 1
Quiet Time (s) = 2
Sensitivity (A/V) = 2e-6

● cb027_009.bin
— cb027_013.bin

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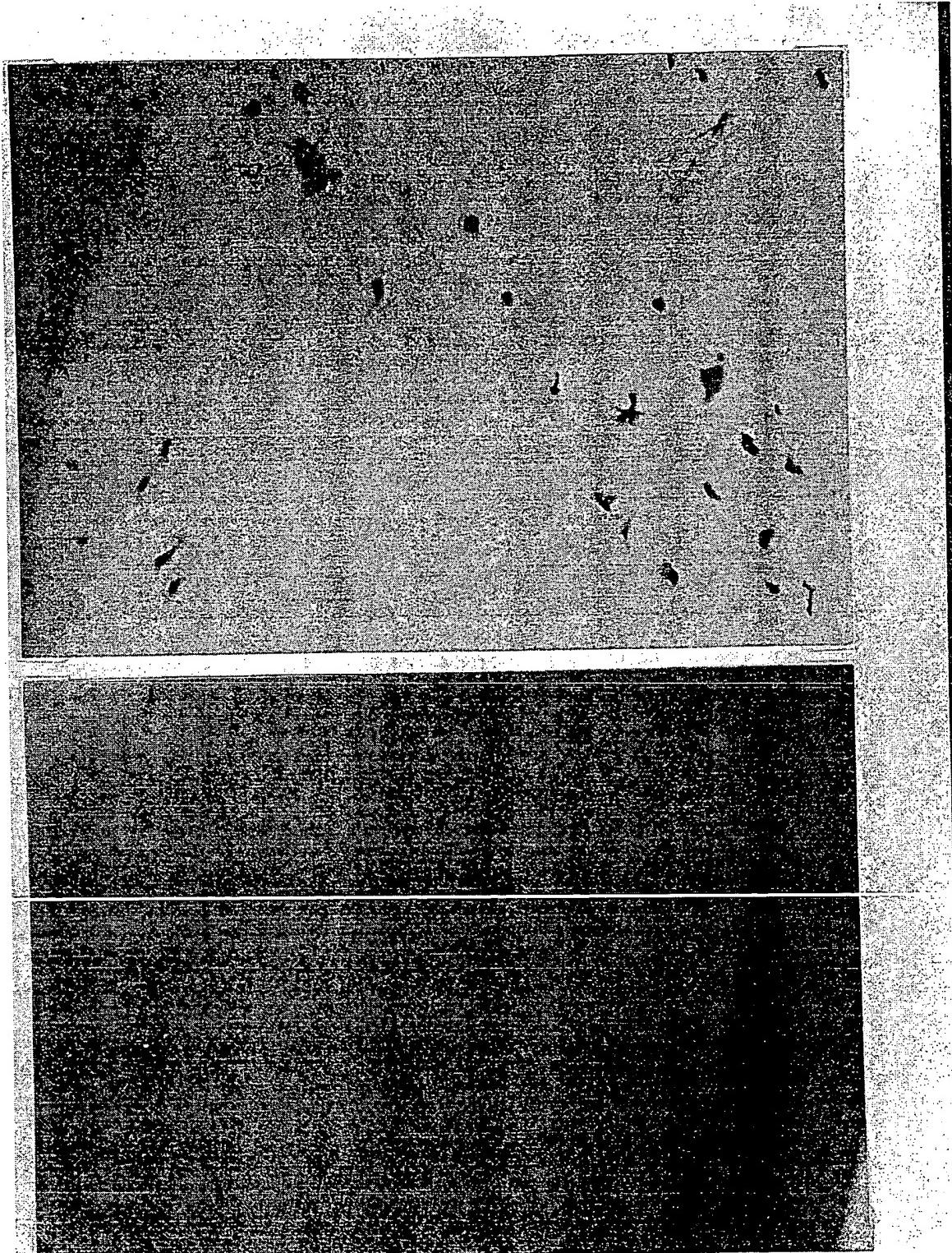


AC Current / 10^{-7} A

Potential / V

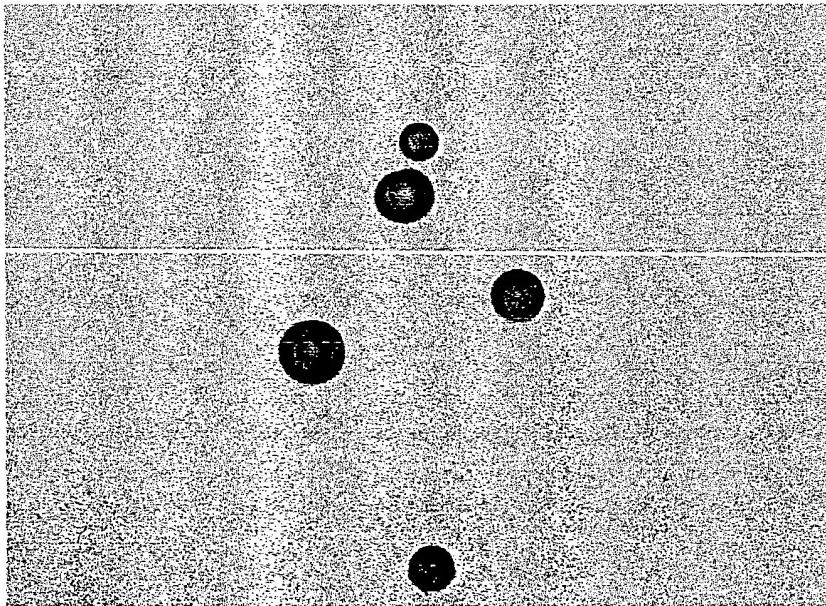
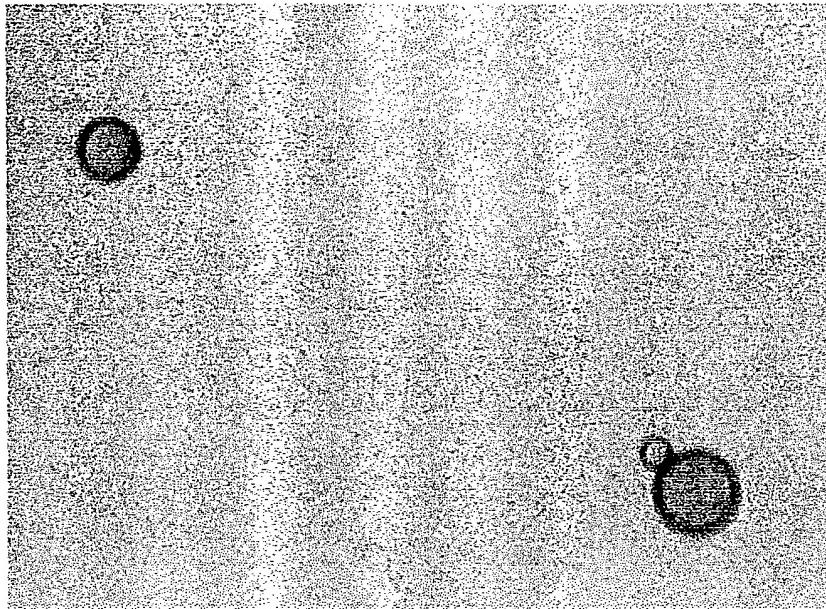
Fig. 28

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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F16.29A

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Colloid Modified ELISA Yields a Million-Fold Increase in Sensitivity



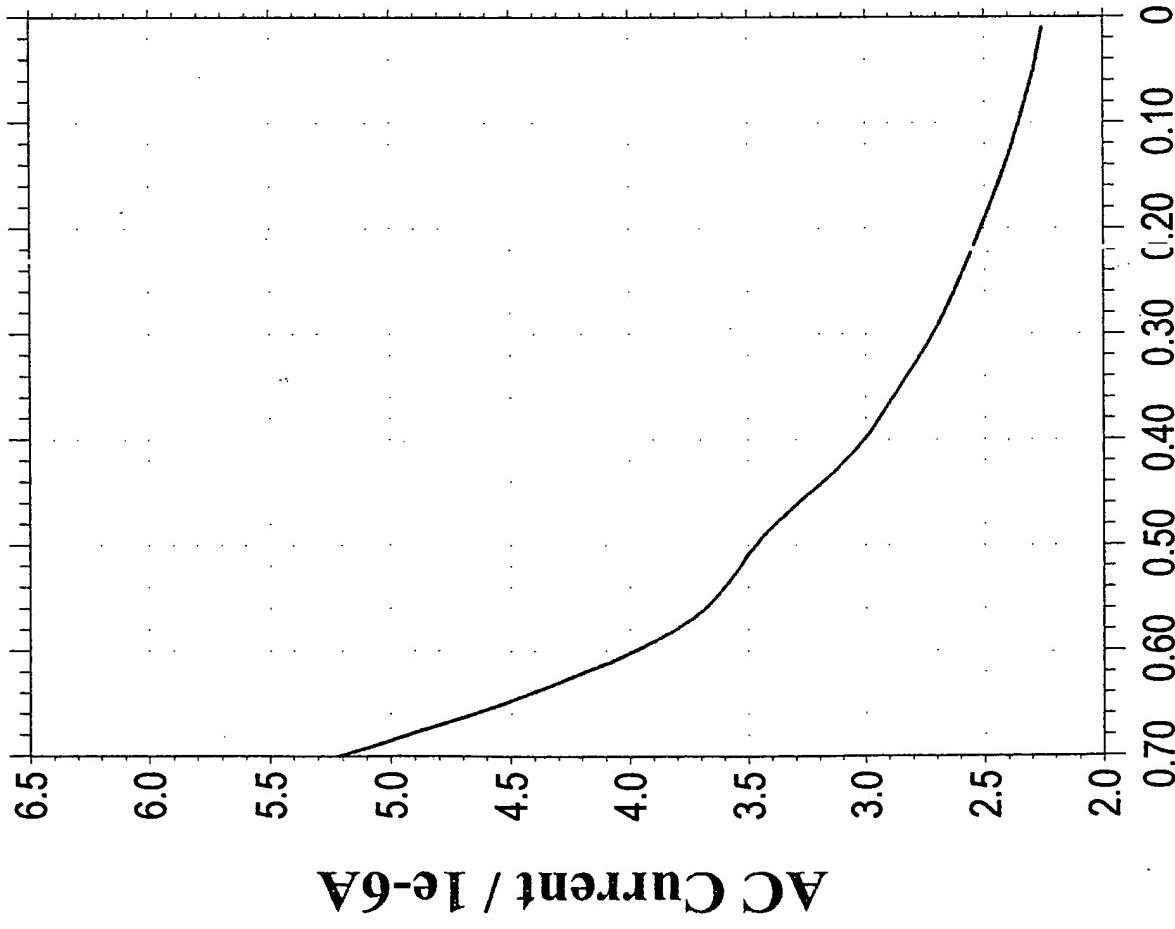
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Target protein (grams)

Fig. 31

25% MIP-1 chip with GSI-colloids

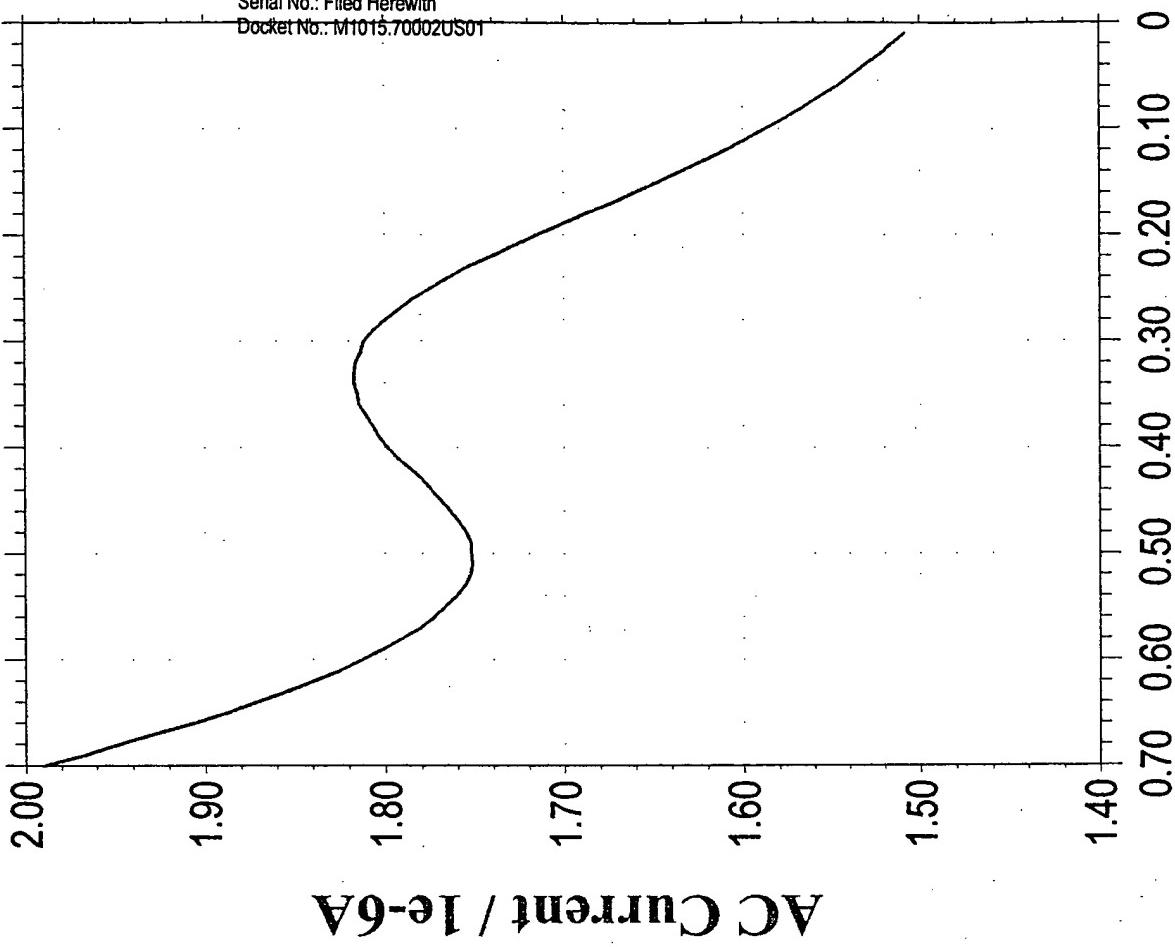
unbound colloids in solution.bin



Potential / V

Fig. 32A

bound to glutathione beads.bin



Potential / V

Fig. 32B

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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